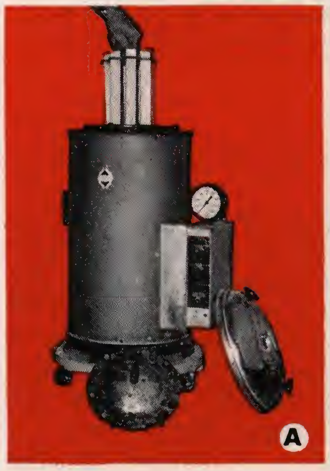
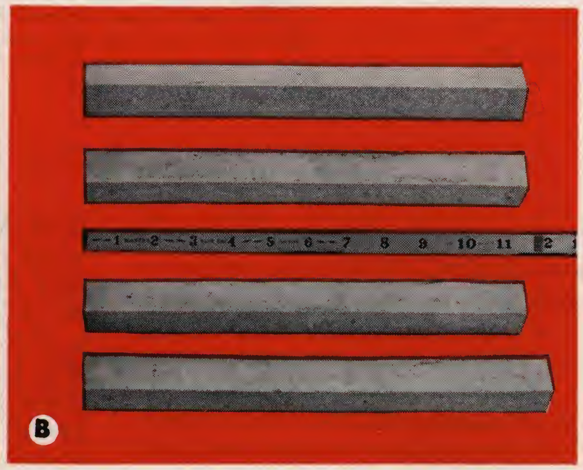
BRIXMENT

MAKES BETTER MORTAR

BRIXMENT is a water-proofed masonry cement for every kind of brick, tile, concrete block or stone masonry, and also for stucco and plaster. Brixment complies with the requirements of the American Society for Testing Materials Specification C91 and the Federal Specification SSC-181 for Masonry Cement (both Type I and II). Specify one part Brixment, three parts damp sand.

BRIXMENT MAKES SOUND MORTAR





A The autoclave test requires the use of a high pressure steam chest. Neat cement bars are exposed to 295 lbs. steam pressure, 420°F., for 3 hours.

B The two bars above the ruler are both Brixment, one before and one after autoclaving. The Brixment is sound — it has not expanded.

The two bars below the ruler are portland cement and lime, one before and one after autoclaving. They are made of one part portland and one part of a lime which does not meet the autoclave test. Note the expansion — proof of unsoundness.

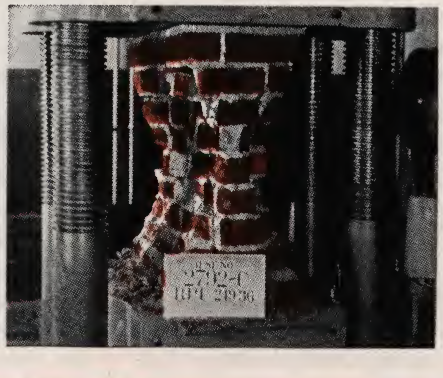
Sound mortar is essential for strong, durable brickwork. To be sound, mortar must be free of constituents which may cause abnormal expansion after long exposure to weather.

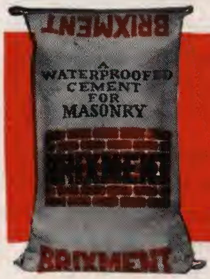
Unsoundness in mortar material is readily detected by the autoclave test. This severe test rapidly accelerates the chemical reaction of mortar materials, and the slightest unsoundness is immediately revealed by excessive expansion.

Brixment easily meets the requirements of the autoclave test included in Federal and ASTM Specifications for Masonry Cement. Therefore, when Brixment is used, sound mortar and strong, durable brickwork are assured.

BRIXMENT MORTAR ASSURES STRONG WALLS

The strength of Brixment mortar is more than adequate for any type of brickwork. The strength of brick piers laid with Brixment mortar is equivalent to the strength of piers laid with 1-1-6 cement and lime mortar. Brixment is recommended for any kind of masonry — for foundations, load-bearing and parapet walls, for free-standing stacks — for every use where strength is required.





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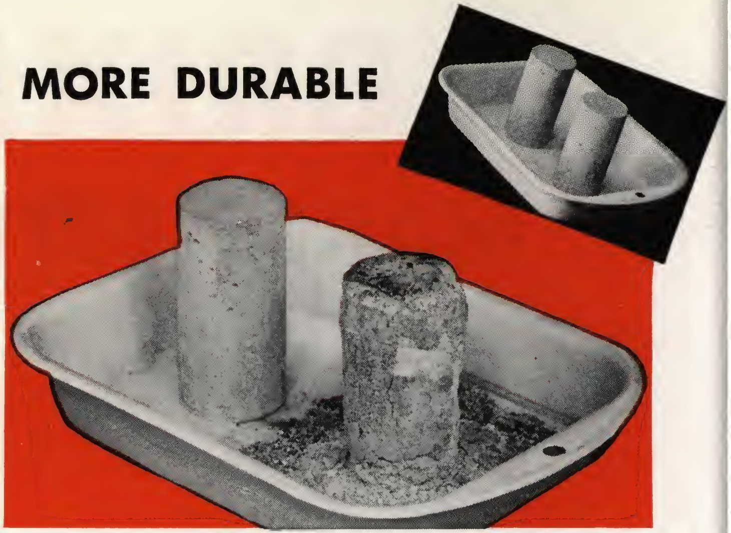
MILLS: BRIXMENT, NEW YORK and SPEED, INDIANA

BRIXMENT MORTAR IS MORE DURABLE

For permanent strength and beauty, mortar must be *durable*—must be able to withstand the alternate freezing and thawing to which it is subjected many times each winter.

Brixment mortar is *durable*. This durability is due partly to the strength and soundness of Brixment mortar, and partly to the fact that an air-entraining water-repelling agent is incorporated into Brixment during manufacture. This helps prevent the mortar from becoming saturated—therefore helps protect it from the destructive action of freezing and thawing. Walls built with Brixment mortar therefore *retain* their original strength and appearance.



To compare the durability of Brixment mortar and ordinary cement-and-lime mortars, make a cylinder of each, let them "cure" for a month, then freeze and thaw them forty or fifty times, with a little water in the pan (the freezing unit of your electric refrigerator will do). See the difference with Brixment mortar!

NOTE TO THE SPECIFICATION WRITER • • •

The following specification is intended as a guide for job specifications. It includes important requirements of materials and workmanship which we believe necessary to obtain dry, durable brick masonry construction.

MASONRY

SCOPE

This section includes masonry and related items required to complete the work indicated on the drawings, in accord with specification requirements.

MATERIALS

Materials shall conform to the following respective specifications:

a. Mortar

(1) *Aggregates:* A.S.T.M. C144

(2) *Water* shall be clean and free from injurious amounts of acids, alkalis, organic materials or other deleterious substances.

(3) *Masonry Cement:* Federal Specification SS-C-181 or A.S.T.M. C91, type II

( ) *Brick (Clay or Shale):* A.S.T.M. C62 or SS-B-656

( ) *Brick (Sand Lime):* A.S.T.M. C73 or Federal SS-B-681

( ) *Concrete Masonry Units, Hollow Load Bearing:* A.S.T.M. C90 or Federal SS-C-621

( ) *Concrete Masonry Units, Hollow Non-Load Bearing:* A.S.T.M. C129 or Federal SS-C-621

( ) *Concrete Masonry Units, Solid:* A.S.T.M. C145

( ) *Concrete Brick:* A.S.T.M. C55 or Federal SS-B-663

( ) *Structural Clay Tile Load Bearing:* A.S.T.M. C34 or Federal SS-T-341

( ) *Structural Clay Tile Non-Load Bearing:* A.S.T.M. C56 or Federal SS-T-351

MORTAR

a. Mortar Proportion

The mortar used in all masonry shall consist of 1 part (Masonry Cement) (Brixment) to not more than 3 parts damp loose sand, measured by volume. The method of measuring materials shall be such that these proportions can be accurately controlled and maintained throughout the progress of the work. The weights per cubic foot of material are considered to be as follows:

Materials	*Weight per cubic foot*
Masonry Cement	Weight printed on bag
Sand, damp & loose	80 lb. for dry sand

b. Mortar Mixing

The mortar shall be thoroughly mixed, and *only in such quantity as is needed for immediate use.* Mortar shall be mixed with a maximum amount of water consistent with satisfactory workability for the bricklayer. Overwetting of mixes shall be avoided. Only machine mixing shall be used, except for small jobs, when hand mixing is specifically authorized by the Architect.

(1) *For Machine Mixing,* while the mixer is in operation, the mortar materials shall be batched in the following order: Add approximately ½ the required water, ½ the sand, all of the cement, then the remainder of the sand. Allow the batch to mix briefly and then add water in small quantities until satisfactory workability for the bricklayer is attained. Caution is urged to avoid overwetting of the mix. The mortar shall then be mixed a minimum time of 5 minutes after all materials have been added. The mixer drum shall be completely empty before recharging next batch.

(2) *For Hand Mixing,* the cement and sand shall be thoroughly mixed in the following manner, before water is added: Spread the sand in the box, spread the cement on top of the sand and mix well with the hoe from both ends of the box. Add about ½ the required water and mix until all materials are uniformly damp. Add water in small amounts and continue mixing until satisfactory workability for the bricklayer is attained. Allow the batch to stand approximately 5 minutes and remix thoroughly with the hoe, without additional water.

c. Mortar Consistency

The mortar shall contain as much water as it can possibly carry and still provide satisfactory consistency for the bricklayer *at the time the masonry unit is laid in the wall.* It shall be retempered *on the board* as necessary to maintain this consistency. Retempering of the mortar in the mortar box shall be avoided.* All

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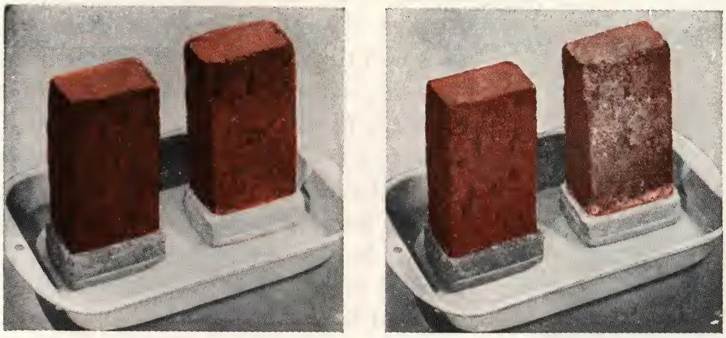
* *Excessive retempering, with continual additions of water, tends to weaken the paste and the size of batches should be limited to avoid this requirement.*

BRIXMENT MORTAR HELPS PREVENT EFFLORESCENCE



To test Brixment mortar and ordinary cement-and-lime mortar for resistance to efflorescence, "cap" two brick heavily with the mortars—let harden, and keep both brick for a few weeks in a shallow pan of water, as shown. See the difference with Brixment mortar!

Efflorescence is an outcropping of minute white crystals on brickwork. It is caused by soluble salts which are present in almost all masonry materials. When reached by water, these salts dissolve and may be drawn, by evaporation, to the surface of the wall.

Brixment helps prevent efflorescence. The air-entraining water-repelling agent in Brixment helps to prevent water from saturating the mortar and dissolving the small amount of salts that it may contain. Moreover, Brixment mortar prevents water from percolating down through the wall, dissolving salts which may be in the brick, and carrying them to the surface.

* * *

mortar shall be used within 2 hours after mixing. Mortar which has greatly stiffened or in which the cementing material has started to set, shall not be used.

d. Admixtures

Anti-freeze compounds, or other admixtures will not be permitted in mortar without the specific approval of the Architect.

GENERAL CONSTRUCTION REQUIREMENTS

a. Storage of Materials

Handle and store materials in such manner as to prevent damage or intrusion of foreign matter. Store concrete units under a cover that permits circulation of air and prevents excessive moisture absorption. Store cement, lime, gypsum and air-setting mortars in tight sheds with elevated floors.

b. Wetting of Brick

Except in freezing weather, all brick shall be thoroughly wetted as necessary to reduce the *rate* of absorption of water at the time of laying to not more than 7/10 of an ounce (20 grams per minute) per brick when placed on its flat side (30 sq. inches) in ¼″ of water for one minute. For a field check, deposit a quantity of water to the flat side of the brick to wet an area approximately the size of a $.50 coin. (Approx. 1¼″ dia.) If the water disappears in less than 1 minute, they shall be wetted.

c. Workmanship

All masonry units shall be laid plumb, level and true to line. Lay out all face coursing before setting to minimize cutting closures or jumping bond. All head joints and bed joints in both face brick and backup work shall be completely full of mortar. Mortar for the bed joint shall be spread thick, and the furrow in the mortar shall be shallow — not deep. Mortar spread on the wall shall be limited to that which can be covered before the surface of the mortar has begun to dry. (Preferably to 3 or 4 brick.) Ample mortar for the head joint shall be placed on the end of each unit to insure that the cross joints will be completely filled, without slushing, when the unit is shoved into place.

When *hollow units,* such as concrete blocks, are used for foundations below grade, or pilasters, they shall be laid in a *full mortar bed* (mortar on face shells and webs). For other concrete block construction mortar shall be spread on the *face shells* only. Enough mortar shall be used to cause excess mortar to ooze out on both sides of the face shell in each head joint and bed joint.

d. Joints

All joints shall be of uniform thickness, approximately ⅜ inch unless otherwise specified. All exterior joints shall be cut flush and as the mortar takes its initial set, shall be tooled to provide a V-shaped or concave finish. A tool approximately twice the diameter of the joint shall be used. Head joints shall be tooled first. Sufficient pressure shall be applied during the tooling of the joints to compact the mortar firmly against the units and provide a neat smooth weathertight finished joint. Exposed interior masonry work, unless otherwise specified, shall have neatly cut flush joints.

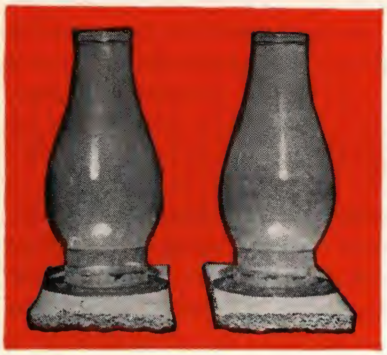
e. Backplastering

The back of the exposed wythe of all exterior brick walls, except for brick veneer, shall be backplastered with mortar of not less than ⅜ inch thickness. If the backup units are laid first, the front of the backup shall be plastered, before the face brick are laid.

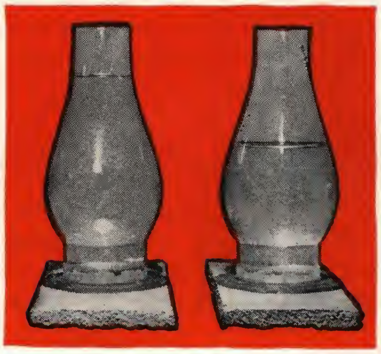
f. Protection

No masonry shall be laid when the temperature is below 32°F on a rising thermometer or below 40°F on a falling thermometer, unless adequate precaution against freezing is provided. All masonry shall be protected against freezing for at least 48 hours after being laid. No masonry shall be constructed on or with frozen materials. All unfinished work shall be covered with waterproof paper or canvas, or other means satisfactory to the Architect. During hot weather or cool, windy weather, when drying conditions are especially severe, additional protection against drying of the mortar may be required. A fine fog spray, applied to the mortar joint with a garden-type pressure sprayer, using a fine fog nozzle, shall be used as directed by the architect. Application of the fog spray shall begin as soon after tooling of the joint as practical to keep the mortar joint damp, and it shall be repeated as necessary for at least one day. All masonry units shall be protected against excessive wetting when freezing may be expected.

BRIXMENT MORTAR IS MORE IMPERMEABLE



Prepare two slabs of mortar, one with Brixment and one with ordinary cement-and-lime mortar. After mortars have hardened, seal a lamp chimney to each of the mortar slabs, and fill with water.



After 24 hours, note how much water has gone into and through the ordinary cement-and-lime mortar, and how little water has gone into or through the Brixment mortar.

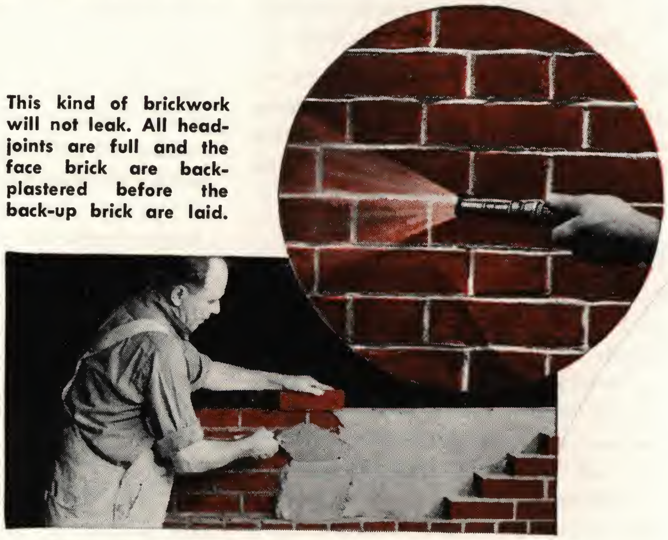
Impermeability is the ability of a mortar to withstand the passage of water. It improves the durability of the structure because it helps prevent the mortar from becoming saturated, and thereby helps protect it from freezing and thawing. It helps prevent efflorescence, because it checks the passage of water, and keeps it from percolating down through the wall. It helps prevent the absorption of harmful moisture up from the foundation, and into the wall.

Brixment mortar is more impermeable. It contains an effective air-entraining water-repelling agent, so that even under pressure, water will not readily penetrate Brixment mortar. Brixment meets the special requirements of the Federal Specifications for water-repelling masonry cements.

BRIXMENT MORTAR HELPS PREVENT LEAKY WALLS

Dry brick walls are much more a matter of good design and good workmanship than a result of the mortar materials used. When a wall leaks, water almost never passes through the brick or through the mortar. It works its way through cracks or openings between the brick and mortar. Even when full joints are secured, all cracks may not be eliminated. The best precaution, therefore, is to parge or backplaster the face brick with water-proofed mortar before the backup units are laid.

Brixment is waterproofed during manufacture. Therefore, if the face brick are backplastered with Brixment mortar, a water-repelling barrier is set up against the further penetration of any water which may have worked its way through cracks or voids in the outside four inches of the wall.



This kind of brickwork will not leak. All head-joints are full and the face brick are back-plastered before the back-up brick are laid.

BRIXMENT MORTAR HAS BETTER WATER RETENTION AND GREATER PLASTICITY

Place a dab of Brixment mortar and a dab of ordinary cement-and-lime mortar on a brick. Wait a minute, then feel each mortar. The one that stays plastic longer will be the one having the highest water-retention. Feel the difference with Brixment mortar!

Brixment's exceptional plasticity has made it the most widely-used masonry cement in the field. It is as plastic as 1-2-9 cement and lime mortar. Brixment makes it easy for the bricklayer to secure neat, economical brickwork.

Brixment mortar also has high water-retaining capacity (the ability of a mortar to retain its moisture when spread out on porous brick). Brixment strongly resists the sucking action of the brick and stays smooth and plastic longer when spread out on the wall. *This permits a more thorough bedding of the brick and a more complete contact between the brick and the mortar.* The result is better bond and hence a stronger and more watertight wall. With Brixment, you lay brick instead of temper mortar.

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